

ABSTRACT**PHASE-SHIFTING CELL FOR AN ANTENNA REFLECTARRAY**

The invention relates to phase-shifting cells constituting the passive reflectarrays of antennas with a reconfigurable transmission direction, transmitting in the microwave range.

More particularly, the invention describes, within the context of phase-shifting cells of the type having dipole strands (7) angularly distributed in a star configuration, a novel type of switch consisting of a microelectromechanical device essentially comprising a suspended micromembrane (11) which, under the action of an electrostatic force caused by a control voltage, deforms sufficiently to ensure electrical connection between the strands (7), making it possible to form a dipole in the desired orientation. In one particular embodiment, the micromembrane (11) can be likened to one of the plates of a capacitor and its deformation corresponds to a substantial increase in the capacitance of this capacitor, thus providing the electrical connection.

This switch technology has the advantages of greater fabrication simplicity and of enhanced performance compared with the known technologies.

The invention provides the main geometrical and technological characteristics for obtaining optimized performance.

FIGURE 9